(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 275 936**
A3

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **88100496.4**

(51) Int. Cl.[5]: **G01N 27/16**

(22) Date of filing: **15.01.88**

(30) Priority: **16.01.87 US 3944**

(43) Date of publication of application:
27.07.88 Bulletin 88/30

(84) Designated Contracting States:
DE FR GB

(88) Date of deferred publication of the search report:
04.04.90 Bulletin 90/14

(71) Applicant: **Mine Safety Appliances Company**
121 Gamma Drive
Pittsburgh Pennsylvania 15235(US)

(72) Inventor: **Fertig, Glenn Howard**
1303 Harvard Avenue
Natrona Heights Pennsylvania 15065(US)
Inventor: **Zinn, Lee T.**
44 Dover Drive
Zelienople Pennsylvania 16063(US)

(74) Representative: **Hoeger, Stellrecht & Partner**
Uhlandstrasse 14 c
D-7000 Stuttgart 1(DE)

(54) Organic fluid detection system and apparatus.

(57) An apparatus is proposed for detecting and measuring with reliable accuracy organic fluid components, comprising first and second fluid sensing elements (28, 29), with both elements including a metal which exhibits variable temperature-dependent electric resistance, depending upon the temperature of the fluideous components to be detected, and with each element bearing a catalyst for promoting oxidation reactions of the organic fluids; the second element (29) is spaced apart from and downstream of the first element and comprises a metal filament which acts as both a heater and a resistance element that varies with the temperature induced in it, wherein variations in electric conductivity of the second element reflect the heat produced by the oxidation of the organic fluids; a pair of voltage control circuits are coupled to each of the sensing elements, serving to controllably heat the elements, and to cause controlled but substantial oxidation of the organic fluids passing thereby; and a measuring circuit producing an alternating output signal, which signal is proportional to the concentration of the organic fluids in the mixture entering the detection apparatus.

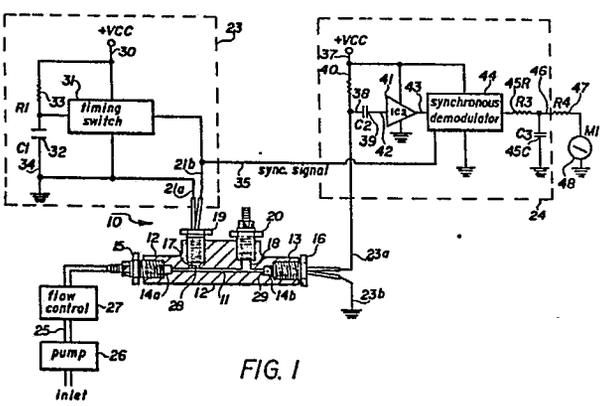

FIG. 1

EP 0 275 936 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 88 10 0496

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	US-A-4 443 791 (O. RISGIN) * Abstract; figure 1 *	1	G 01 N 27/16
A	US-A-4 414 839 (D.R. DILLEY et al.) * Abstract; figure 1 *	1	
A	US-A-4 201 088 (H.L. TRIETLEY, Jr.) * Abstract *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

G 01 N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18-12-1989	BAROCCI S.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P0401)